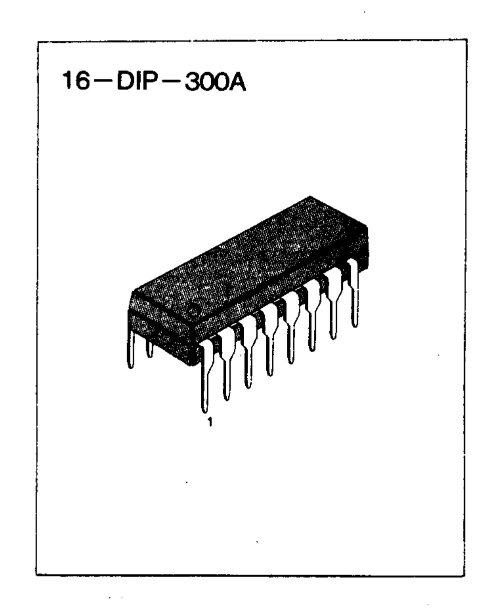
AM/FM TUNER

The KA2297 is a monolithic integrated circuit which consist of FM F/E + AM/FM IF and DET AMP.
The KA2297 is no adjustment AM/FM IF, DET coil



FEATURES

- **Not need AM/FM IF, FM DET COIL**
- **Built−in FM Front End**
- **Minimum mumber of external parts required**
- **Operating voltage : V_{CC}=1.8V~7V**

ORDERING INFORMATION

Device	Package	Operating Temperature
KA2297	16-DIP-300A	−20~+70°C

BLOCK DIAGRAM

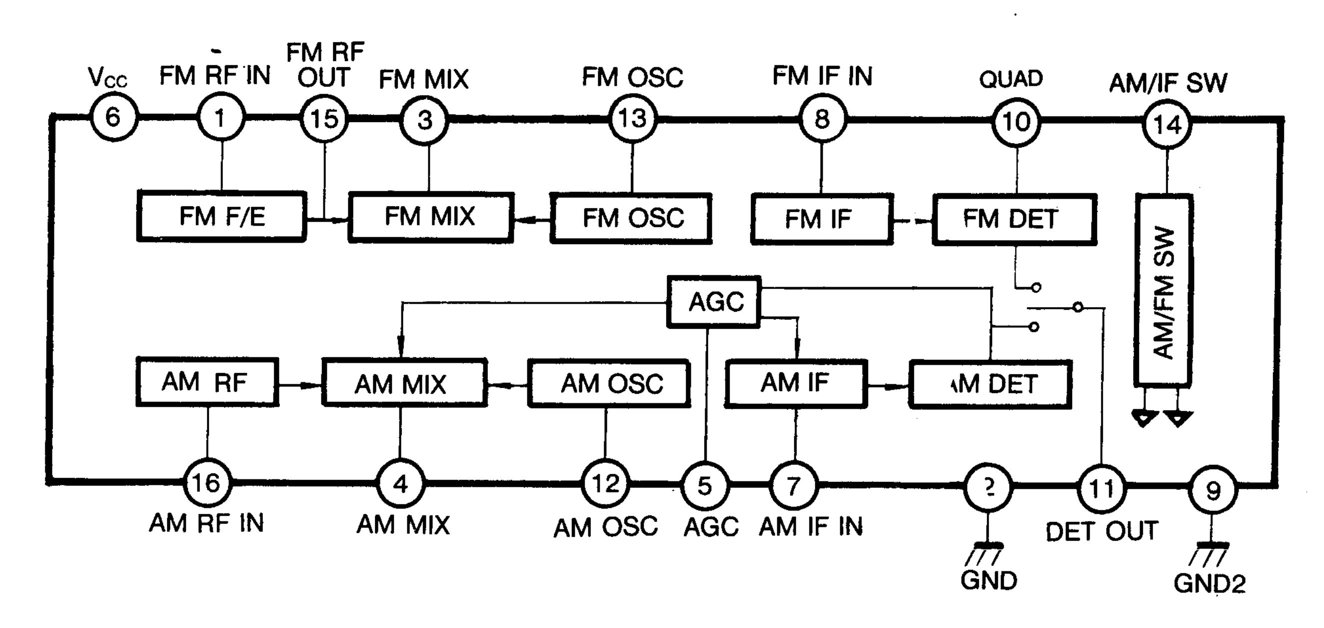


Fig. 1

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Characteristic	Symbol	Value	Unit
Maximum Supply Voltage	V_{CC}	8	V
Power Dissipation	P_d	250	mW
Operating Temperature	T_{opr}	−20～+75	°C
Storage Temperature	T_{stg}	−55～+125	°C

ELECTRICAL CHARACTERISTICS

(FM F/E: f=98MHz, fm=1KHz, FM IF: 10.7MHz, AM: f=1MHz, fm=1KHz, △f=30%, V_{CC}=3V

Characteristic		Symbol	Test Condition	Min	Typ	Max	Unit
Quiescent Circuit Current		I_{CCQ1}	FM, V_i=0	6.0	10.0	14.0	mA
		I_{CCQ2}	AM, V_i=0	3.0	5.0	8.0	mA
FM F/E	−3dB Limiting	$V_{(LIM)1}$	V_0=−3dB Point		12	22	dBμ
FM IF	−3dB Limiting Sensitivity	$V_{(LIM)2}$	V_0=−3dB Point	42	47	52	dBμ
	Detector Output Voltage	$V_{O(DET)1}$	V_i=80dBμ	55	70	85	mV_{rms}
	Total Harmonic Distortion	THD_1	V_i=80dBμ		0.4	1	%
	Signal to Noise Ratio	S/N_1	V_i=80dBμ	56	62		dB
	AM Rejection Ratio	AMR	V_i=80dBμ	32	38		dB
AM	Voltage Gain	G_{V1}	V_i=30dBμ	28	50	72	mV_{rms}
	Detector Output Voltage	$V_{O(DET)2}$	V_i=60dBμ	40	60	82	mV_{rms}
	Total Harmonic Distortion	THD_2	V_i=60dBμ		1.0	2.0	%
	Signal to Noise Ratio	S/N_2	V_i=60dBμ	37	43		dB

TEST CIRCUIT 1

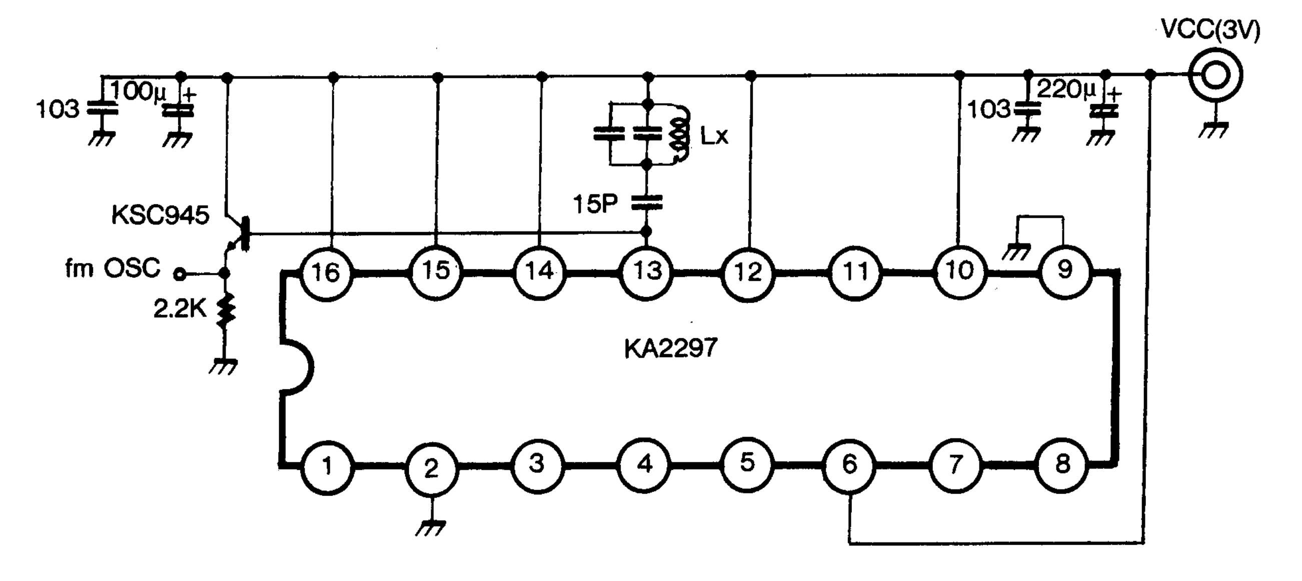


Fig. 2

TEST CIRCUIT 2

VCC(3V)
CDA10.7MC31
SW1
2.2mH
L1 L2 L3
AM FM
A B
AN RF IN
223
2.2K
75
303
15P
472
103
220μ
1K
2.2μ
DET OUT
FM AM
A B
473 472
20K
SW2
16 15 14 13 12 11 10 9
KA2297
1 2 3 4 5 6 7 8
FM RF IN
BPF
SFE10.7MAS
SFU455C5
3.3μ
SFE10.7MAS
FM IF IN
A
SW3
B
270

Fig. 3

COIL SPEC

SEAL NAME	L1		L2		L3	
TURNS	3−1	2 2/8	1−3	2 6/8	1−2	12T
					2−3	73T
WIRE(mmφ)	0.5	UEW	0.5	UEW	0.08	UEW
CONNECTION (BOTTOM VIEV)	S ③ ④ ② ⑤ ① ⑥		③ ④ ② ⑤ S ① ⑥		③ ④ ② ⑤ S ① ⑥	
FREQUENCY	100MHz		100MHz		797KHz	
TUNNG CAPACITY						
INDUCTANCE					268μH ±8%min	
UNLOADED Q					70min	

APPLICATION CIRCUIT

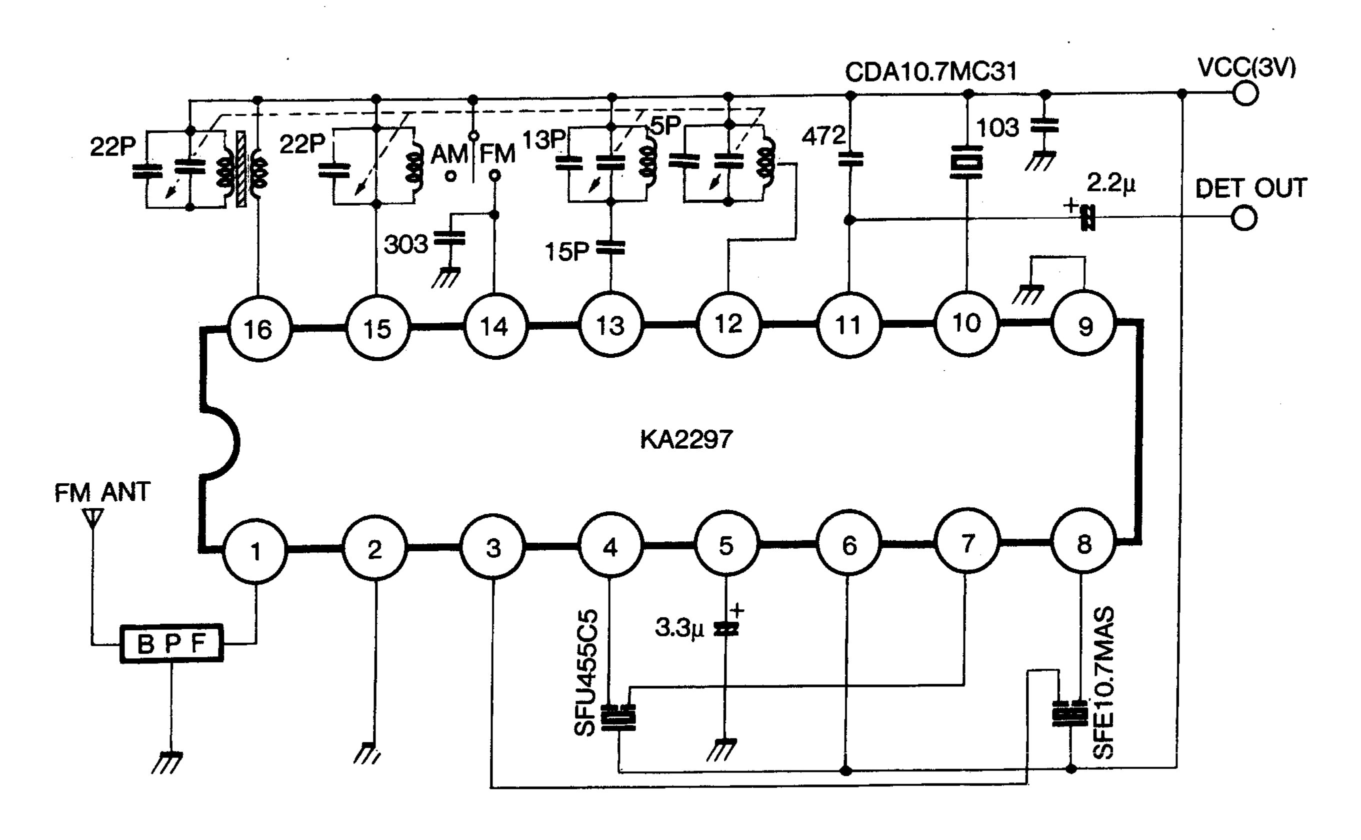


Fig. 4